

Stress-Testing

“An Introduction to Implementing Portfolio Stress-Testing”

Course Outline

FORT GREY CONSULTING

Tutor: Dr Quintin Rayer

New Edition

Stock

Dr Quintin Rayer has a paper on portfolio stress testing published by the Chartered Institute for Securities and Investments' (CISI) journal, the Review of Financial Markets, 'Dissecting portfolio stress-testing', issue 7, pages 2-7, September 2015.

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Overview

Attempting to put meaningful numbers to portfolio risks is always challenging. Conventional risk measures are often considered not to fully capture all risks inherent in a portfolio, particularly under difficult market conditions.

This course provides an introduction to stress-testing a portfolio of conventional assets against market risks including both historical and artificial stress-test scenarios.

Examples are used throughout to illustrate key concepts, so that after the course participants can implement some simple stress-tests on their own portfolios of conventional assets. Focusing on implementation the course does not cover the regulatory aspects of stress-testing.

The estimated time required to complete this course is 3-6 hours.

Target Audience

- Professionals in the financial services sector who wish to learn about stress-testing portfolios. This includes staff new to risk functions who wish to gain an overview of the stress-testing methods that may be used to analyse portfolio risk.
- Staff looking to explore methods for quantifying portfolio risks.
- Although stress-testing has some mathematically more demanding elements, this course emphasises the core concepts. Mathematical elements are limited, so that financial professionals without a quantitative background should still be able to gain a strong appreciation of the key approaches used.

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1. Introduction

Objectives – what is stress-testing? – implementation – classification – historical and artificial scenarios.

2. Historical VaR Stress Tests

Historical stress-tests – historical VaR for stress-testing.

3. Historical Stress Tests using Event Periods

Event periods – conventions – absolute versus relative – missing factors – scenario maintenance.

4. Hypothetical: Covariance Matrix Stress Tests

Volatility and VaR – stress-test example – covariance matrix – how to revise the correlation matrix.

5. Hypothetical: Created Event Stress Tests

Factor shocks – scenarios – stress-test envelope – constructing individual scenarios.

6. Summary

Overview - contact details.

Tutor



Dr Quintin Rayer

BSc, ARCS, DPhil, CPhys, Chartered FCISI, Chartered Wealth Manager, SIPC

Consultant

- Dr Quintin Rayer is a Chartered Fellow of the Chartered Institute for Securities and Investments, a Chartered Wealth Manager, holds a Physics degree from Imperial College London and a Physics doctorate from Oxford University.
- Quintin has applied knowledge from nuclear and aerospace engineering to areas in finance, working for actuarial and investment consultancy firms as well as a multi-national European bank for nearly ten years.
- Projects have included substantial and innovative development of quantitative fund selection and analysis techniques, risk monitoring and portfolio optimisation, including in-house training for analysts and relationship managers.
- Quintin has completed the Sustainable Investment Professional Certification (SIPC) with the John Molson Business School, becoming this programme's first graduate in the Channel Islands and the second in the UK.

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Course Benefits

- Appreciate why portfolio stress testing is required.
- Gain an understanding of what portfolio stress testing involves and how it is implemented.
- See a definition of stress testing and a classification of different types of stress tests.
- Examples are used throughout to aid understanding.
- Learn how to implement simple stress tests on portfolios of conventional assets.
- Course completion certificate as evidence for meeting Continuing Professional Development (CPD) requirements.

Course Content Includes

- Slides to work through at your own pace.
- Video: narrated slides with explanations of the material covered.
- Video: television presenter style.
- Worked examples.
- Test questions to check understanding.
- Course certificate that can be downloaded as proof of completion.